3-21-2007

Greenway Medical Technologies: Challenging the Goliaths in Electronic Medical Records

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GREENWAY MEDICAL TECHNOLOGIES: CHALLENGING THE GOLIATHS IN ELECTRONIC MEDICAL RECORDS

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ABSTRACT

This case examines the business development and strategic expansion of Greenway Medical Technologies, a software company delivering electronic healthcare solutions to physicians operating small practices. Over a period of seven years and with an investment of $70 million, Greenway built a best-in-class software application. The case also describes the electronic medical record systems industry and the key drivers impacting the growth of this industry and healthcare delivery in the United States.

Keywords: medical technology, electronic medical records, paperless office, health information management, entrepreneurship

Editor's note: A teaching note is available to faculty who are listed in the MISRC-ISWorld Faculty Directory (www.isfacdir.org). Contact the second author at rwatson@terry.uga.edu.

I. FOOTBALL AND THE FUTURE

On the eve of a highly anticipated annual football game between the University of Georgia[1] (UGA) and Auburn University,[2] the corporate headquarters of Greenway Medical Technologies[3] (Greenway) in Carrollton, Georgia[4] is buzzing with colleagues fanatically supporting one of the two powerhouse football teams. This good-natured fun begins at the top with the Chairman and CEO Tommy Green Jr. (a UGA alumnus) and his son Tee Green III, President (an Auburn alumnus) who both vigorously support their alma maters.

Generating sales of approximately $10 million in 2005, Greenway has developed a strong position in the healthcare information technology industry delivering mission-critical software applications to healthcare providers across the United States. Greenway is primed for tremendous growth and was named one of the top 100 "hottest private companies in North

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[1] www.uga.edu

[2] www.auburn.edu

[3] www.greenwaymedical.com

[4] www.carrollton-ga.gov

America" for 2005 by Red Herring[5] magazine, which cited the company's strong customer base, compelling technology, solid finances, and capable management team.

Tommy Green, Jr.

While the fate of college football teams brings about different points of view, the talented and dynamic father-and-son tandem also brings varying perspectives for determining the strategic direction of the seven-year, privately held joint venture.

On the one hand, Tommy Green, a lifetime entrepreneur, says with enthusiasm "I like to birth a company, grow it, and sell it," a process he has navigated successfully twice before—selling the family auto parts business in 1989 and a proprietary check imaging technology firm in 1998. Tommy Green's ideal scenario and goal within one to two years to take Greenway Medical Technologies public via an initial public offering (IPO), creating a new public entity for which he would serve as Chairman of the Board and Tee Green as the Chief Executive Officer (CEO). Tommy Green would also consider an acquisition of the company for four to five times the initial investment start-up costs.

Tee Green, III

Tee Green, on the other hand, believes that raising funds via the private equity market to finance growth is a viable short-term strategy, allowing management to focus on creating sustained earnings growth, which would position Greenway for a stronger IPO in the future. Tee Green prefers an IPO to an acquisition, stating, "Some companies are good at acquiring, some companies are bad." In his estimation, an acquisition can lead to mass changes in strategic direction, operating systems, and personnel, possibly even dissolving the company. Someday, an IPO would provide a better long-term track for the 170 employees and the sustainability of the business.

While Tee Green recognizes that Greenway was founded and built with the intent of going public, he warns that "the costs of going public are high," possibly affecting shareholders negatively in the short-term. For instance, the overhead for a public firm to comply with federal filings and regulations, such as Sarbanes-Oxley,[6] is estimated to be $1 million per year, potentially affecting profitability.

Already, competitors and investors have approached Greenway with offers of up to $100 million to buy the company but have walked away from the negotiating table empty-handed. While the allegiance to college football teams is the focus of debate on this day, in the weeks and months to come, Tommy and Tee Green must wrestle with much tougher issues. What is the best growth strategy for Greenway Medical Technologies? Can Greenway grow successfully with private equity investors, or is an IPO a better financial strategy? Will Greenway look to the public financial markets for capital to grow and expand, or will it be acquired by a competitor who is looking for growth opportunities? How does Greenway continue to maintain exceptional customer service and build high quality software while handling rapid growth?

II. THE BIRTH OF GREENWAY MEDICAL TECHNOLOGIES

"I am a practicing physician because I enjoy taking care of my patients … however, I had been frustrated for some time by the problems associated with running my practice, which had been a fulltime job itself – and an unsatisfying one at that." Dr. Rick Martin, MD, OB/GYN, Carrollton, Ga.

Such sentiments are commonplace among physicians and became even more prevalent during the mid-to-late 1990s when the U.S. federal government began to reform healthcare regulations impacting the collection and sharing of patient information.

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[5] www.redherring.com
[6] http://www.sarbanes-oxley-forum.com/

In Carrollton, Georgia, a small group of physicians and medical practice owners formed a consortium to address the administrative and regulatory issues facing physicians with small practices. The group decided that simply using existing software to help manage a practice would not be sufficient—they set out to find customized proprietary technology. Armed with their medical expertise and a desire to improve the effectiveness of their practices, the consortium turned to Tommy Green, a local, well-respected entrepreneur and successful business leader in the technology field.

Some of Carrollton's physicians had invested in Tommy Green's prior business venture, Greenway Corporation, a software company that provided check-imaging technology to banks, insurance companies, and other financial services firms. The successful software company, founded in 1994, was an industry leader helping to speed check-payment processing, improve cash flows, and increase operational efficiencies for its client base. The company was acquired in 1998 by the BISYS group, a provider of information services to the financial services sector.

After an initial meeting with the consortium of healthcare providers, Tommy Green was highly skeptical of the proposed business venture. In his estimation, the market for health information management systems was crowded and dominated by large established companies such as GE Healthcare, McKesson, and Siemens. However, the consortium was able to demonstrate to Tommy Green that existing product offerings did not cater to small-to-medium practices and were often cumbersome and difficult to use. Recognizing the opportunity to respond to an unmet market need and create a successful business, Tommy Green agreed to work with the consortium, combining the consortium's intimate industry knowledge with his expertise in building a technology business into a unique partnership—Greenway Medical Technologies.

Greenway is structured as a privately held joint venture between a consortium of 75 healthcare professionals and technologists. The consortium consists of physicians, hospital CEOs, practice managers, and nurses who together own 25 percent of the venture while Greenway owns the remaining 75 percent. Greenway provides the information technology infrastructure, software developers, and trainers, and the consortium provides the subject matter expertise to develop top-notch software.

Greenway's mission is to provide healthcare business solutions by enhancing the delivery of patient care through innovative software and services that allow physicians' practices to function at high levels of efficiency.

III. AN EMERGING INDUSTRY

Healthcare in the United States is a $1.6 trillion market and represents about 15 percent of GDP, almost double the average GDP expenditure (8.7 percent) of thirty of the world's advanced economies (See Table 1).

Table 1. National GDP Expenditures on Healthcare

(Source: Organisation for Economic Co-operation and Development[7])

Country	% of GDP For Healthcare		Country	% of GDP For Healthcare
United States	15.00		Italy	8.40
Switzerland	11.50		New Zealand	8.10
Germany	11.10		Japan	7.90
Iceland	10.50		Spain	7.70
Norway	10.30		United Kingdom	7.70
France	10.10		Austria	7.50
Canada	9.90		Czech Republic	7.50
Greece	9.90		Finland	7.40
Netherlands	9.80		Ireland	7.40
Belgium	9.60		Turkey	7.40
Portugal	9.60		Luxembourg	6.90
Sweden	9.40		Poland	6.50
Australia	9.30		Mexico	6.20
Denmark	9.00		Slovak Republic	5.90
Hungary	8.40		Korea	5.60

At the end of the 1990s, most American industries were spending approximately $8,000 per worker for information technology (IT), but the healthcare industry was investing only approximately $1,000 per worker. Healthcare has been a leader in developing technological advancements to conduct research, solve complex medical problems, and provide life-saving medical treatments. Ironically though, the use of technology as a productivity tool to manage the delivery of patient care and the administrative duties of a medical office lags.

HIPPA

The increased interest in information systems for medical practices came in the wake of the Health Insurance Portability and Accountability Act of 1996 (HIPAA),[8] signed into law on August 21, 1996. HIPAA primarily regulates health insurance and its portability. Insurance portability provides Americans who have purchased health insurance the right to change physicians and use their current insurance coverage to enter into a payment contract with a new healthcare provider. In an effort to ensure the seamless transfer of information from one physician to another, HIPAA created a requirement known as Administrative Simplification,[9] HIPAA Title II, Subtitle F, with the intention of improving "the efficiency and effectiveness of the healthcare system, by mandating the development of standards and requirements to enable the electronic exchange of certain health information."

The new law created a need for healthcare providers—hospitals, managed care facilities, and sole practitioners—to find an efficient method of handling patients' information, resulting in the development of electronic medical records or EMR systems. By 2004, all medical practices and related electronic systems were required to be HIPPA-compliant.

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[7] www.oecd.org/document/16/0,2340,en_2649_34631_2085200_1_1_1_1,00.html

[8] www.hipaa.org

[9] www.hipaadvisory.com/Regs/enforcement/background.htm

ELECTRONIC MEDICAL RECORD SYSTEM

An electronic medical record system (EMR) is designed to support ambulatory care.[10] The foundation for an EMR system is a computer-based patient record (CPR) or an electronic health record (EHR); both terms are used interchangeably to describe a "digital patient chart." A typical EMR system assists physicians with documenting patient visits, clinical decision support, prescription writing, test ordering, and charge capturing. More robust EMR systems include these basic functions plus appointment scheduling, billing, insurance claims management, and self-service allowing the patient to interact with the healthcare provider via remote electronic access.

Increasingly, in the United States, EMR systems are also referred to as Electronic Health Record systems. For the remainder of this case, EMR and EHR are synonymous.

EMR ADOPTION

"We were so committed to an entirely electronic records and document management system that we did not include any paper filing areas in the floor plan of our new hospital" Barbara Manor, Director of Health Information Management for Exempla [Lamont 2005]

Large hospitals, clinics, and medical practices with many physicians have been the first to adopt the concept of a "paperless records management system." In addition to complying with federal regulations, reducing filing costs, and increasing efficiency, EMR systems assist risk management. The Institute of Medicine estimates that each year 44,000 to 98,000 lives are lost in the U.S. due to medical file errors, a liability that can be mitigated with more efficient record keeping. It is estimated that more than 70 percent of medication-based problems are corrected when an EMR is in place [Lamont 2005]. Electronic record keeping can also protect against the loss of paper records due to theft, loss, fire, or flood. During "Hurricane Katrina," a natural disaster that devastated the Gulf coastline of the U.S. in August 2005, more than one million medical records were destroyed.

Another key driver affecting EMR adoption is "health consumerism," a rising trend in healthcare that describes patients' increased awareness of their legal rights, insurance coverage options, and alternative medical treatments. Patients have a strong desire to be actively involved in their personal healthcare and that of family members leading to an increased need for transparent records and a mechanism to share information between the patient and the healthcare provider.

Although, EMR systems have been marketed since the mid 1990s, only about 10 percent of U.S. physicians' offices have implemented a complete EMR system [Kelly 2005]. While many private companies have entered the field of healthcare technology to serve this growing sector, the adoption rate for EMR systems is still low.

In early 2005, the Medical Group Management Association (MGMA) Center for Research[11] conducted a national survey of more than 3,300 practices. Only 14 percent report using an EMR system and only 11 percent indicate that the EMR system was fully implemented for all physicians at all practice locations. Adoption rates vary with the size of the medical group, for example, groups with 20 or more full-time physicians had a rate of almost 20 percent (See Table 2).

When asked about future plans, 20 percent of respondents indicated that an EMR implementation was planned in the next 13-24 months, but another 42 percent had no immediate plans. Of the doctors who did not plan to implement a system, almost half were in practices of less than five doctors.

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[10] Ambulatory Care defines medical services that are provided as an outpatient (non-hospitalized). Services could include diagnosis, treatment, and rehabilitation.
[11] www.mgma.com/research/index.cfm

Table 2. EMR Adoption Rates

Full Time Physicians	EMR Adoption Rate (%)
1 – 5	12.5
6 – 10	15.2
11 – 20	18.9
21 or more	19.5

Source: Medical Group Management Association (MGMA) Center for Research

Survey respondents cited cost as the number one adoption barrier. The average purchase and implementation cost of an EMR system is $32,606 per full-time physician and maintenance costs per physician are an additional $1,200 per month. The second biggest barrier is system integration. Almost all physicians have a computer system for claims management, billing patients, and tracking insurance, as this was the first application of computer technology to healthcare known as "practice management" or PM systems. EMR systems are primarily designed for the "clinical" work of physicians—collecting patient medical information (i.e., test results, family medical history). To avoid duplication of efforts and inefficient processing, it is imperative that the EMR system "talks to" or is fully integrated with the practice management side of the business.

Changing healthcare industry conditions, including government initiatives, pay-for-performance incentives, and e-prescribing programs are driving the growth of the EMR market, particularly among small medical offices with 1 – 10 physicians, which represent 70 percent of the ambulatory care market. Even given the resistance to change among some physicians, researchers estimate that in the United States, industry-wide adoption of a basic EMR system will increase from 10 percent in 2005 to 30 percent in 2008 [Kelly 2005].

Most advanced economies are moving toward EMRs as a means of improving the quality and cost effectiveness of health care. The Australian Minister for Heath and Ageing noted in August 2005: "Better use of IT is no panacea, but there's scarcely a problem in the health system it can't improve." As a result, many advanced economies aim to have EMRs widely deployed within the next 10 years. The EMR penetration rate in 2003 was over 90 percent in primary care practices in Norway, Sweden, and Denmark, well ahead of the U.S.[12]

Singapore's Ministry of Health has initiated an Electronic Medical Record Exchange (EMRX) system to enable the sharing of electronic medical records across all public hospitals and polyclinics in Singapore. As one emergency care doctor observed, "Before, when a patient came in, we had to wait up to an hour before the medical records for own hospital came back. Now it is immediate and covers all the institutions."[13]

HL7

The technical heart of an EMR is the set of standards for describing the exchange, management, and integration of health care data. Heath Level 7 (HL7)[14] is an American National Standards Institute[15] (ANSI) accredited standards developing organization. Its members are drawn from the international community of healthcare experts. HL7 has developed a Reference Information

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[12] www.openclinical.org/emr.html
[13] www.moh.gov.sg/cmaweb/attachments/publication/283da7ce6er3/EMR_Flyer_Eng03path.pdf
[14] www.hl7.org
[15] www.ansi.org

Model (RIM),[16] which is a model of clinical data and the messages that transport data. In 2000, HL7 ratified version 1 of the Clinical Document Architecture, which defines an XML[17] standard for the exchange of clinical documents. Because they are XML text files, CDA compliant documents can also be displayed, via the use of XSLT,[18] on a variety of devices such as Web browsers and cell phones and can be stored in a database.

IV. REGULATORY ENVIRONMENT

According to the U.S. Department of Health and Human Services,[19] a national health information network could save $140 billion per year by improving care and reducing costs. In April 2004, the Bush Administration set a goal for every American to have an electronic health record within 10 years. In support of this mandate, Congress appropriated $30 million to the Office of the National Coordinator for Health Information Technology (ONCHIT),[20] a division of Health and Human Services, to overcome barriers that inhibit the use of EMRs, including awarding contracts to:

- Develop and evaluate a process to establish standards that would make healthcare records interoperable;
- Develop a compliance certification process for interoperability;
- Design a prototype national health information network architecture;
- Evaluate state laws and business policies on privacy and security; develop plans to address any issues of concern.

The federal government is also offering a "free" electronic health record system, VistA®,[21] which has been used by the U.S. Department of Veterans Affairs for many years. However, many users find VistA difficult to install and operate, leaving doctors to choose the free product or turn to private enterprise for more user friendly software products [Lamont 2005]. Medsphere,[22] an open-source software start-up, is building a business based on VistA and open-source technology to support EMR. Its current focus seems to be mainly on hospitals, clinics, and larger medical centers.

As of the writing, there are 15 bill proposals in the U.S. House of Representatives or the Senate related to EMR.

V. PRIME*SUITE*: GREENWAY'S FLAGSHIP PRODUCT

In June 2005, an independent report for healthcare executives and professionals, The Best in Klas Report,[23] ranked Prime*Suite* Chart as the #1 ambulatory EMR solution and #2 for ambulatory billing and scheduling within the market segment of one to five physicians per office.

Greenway's Prime*Suite* solution is credited with significantly impacting the financials of both small and medium-sized medical practices. For example, the Oswego County OB-GYN located in upstate New York has nine medical practices and sees 200 patients daily. After one year of using Prime*Suite*, the medical group realized a return on investment of $407,000 through increased savings and revenues.[24] Oswego County reports that paperwork decreased by up to an hour per day per physician, doctors are seeing 25 more patients per week without increasing their hours,

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[16] www.hl7.org/library/data-model/RIM/C30202/rim.htm#rimSpec
[17] en.wikibooks.org/wiki/XML
[18] en.wikibooks.org/wiki/XML:_Managing_Data_Exchange/XSL
[19] www.hhs.gov
[20] www.hhs.gov/healthit
[21] www.va.gov/vista_monograph
[22] www.medsphere.com
[23] www.healthcomputing.com
[24] download.microsoft.com/documents/customerevidence/7140_Oswego_Greenway_9_2_04b.doc

and gross collections are up four percent. Increases in revenues can be linked to better process flow and information management, such as coding preventive visits as just that rather than as established patient visit, which have a lower reimbursement rate. This small change netted an additional $58,000 in revenue per year.

WHAT IS PRIME*SUITE*?

Prime*Suite* automates the patient encounter from scheduling through clinical documentation and claims management. Prime*Suite* is delivered through a Web browser interface and is supported by a centralized relational database. The system is driven by modules and drop-down menus and supports multiple points of data entry including keyboard, webcam, and tablet PC based on digital dashboard technology. Prime*Suite* offers five distinct functions: appointment scheduling, patient registration, charting, accounts receivable management, and reporting. The charting function is the electronic medical record portion of the system, which is titled Prime*Chart*, allowing the physician and caregivers to document a patient's symptoms, track medical history, review prescriptions, and monitor overall progress. The remaining four functions are grouped into the practice management or administrative portion of the system called Prime*Practice*. Prime*Practice* provides financial management such as medical coding and billing, patient invoices, as well as administrative functions such as visit check-in/check-out information and insurance eligibility. Prime*Chart* and Prime*Patient* are integrated via an automated work flow to create Prime*Suite.* Each module of Prime*Suite* provides reporting capability.

Prime*Suite*: Process Flow

"Functionality without usability is neither functional nor usable!" John C. Durham, MD - Vice President, Chief Medical Officer, Greenway Medical Technologies[25]

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Greenway believes that efficient work flow is as important as the technology itself. The following section describes the Prime*Suite* work flow for a typical patient visit.

When a patient arrives at the physician's office, the staff proceed to register the patient. Via a desktop or laptop computer, the administrator selects the patient record. The screen will display a digital photograph of the patient (to aid with preventing insurance fraud), a visit check-in screen, and insurance eligibility information. Once the patient is checked in, the doctor will meet with the patient and proceed with an exam and evaluation.

Using a tablet PC and a stylus pen, the physician enters patient responses into the system, which is completely driven by drop-down menu boxes. If the response from the patient is not an available choice on the menu, the physician can simply handwrite free-form text using the stylus pen (no typing or data entry is required).

If required, the physician or nurse's assistant can use a webcam to take digital images of any physical abrasions or wounds to document the existing condition. When the doctor completes the evaluation, the system proposes a diagnosis based on the patient's responses. The doctor has full control over whether to accept the diagnosis or enter an alternative conclusion.

Based on the diagnosis and the care provided, medical billing codes are assigned to the patient record and the associated fees are calculated at the end of the visit to develop a patient financial statement. At the end of each consultation, the entire flow of information from the time the patient arrived, to the diagnosis, and the final billed amount are available to view by the doctor or administration in one on-screen view or a printed document.
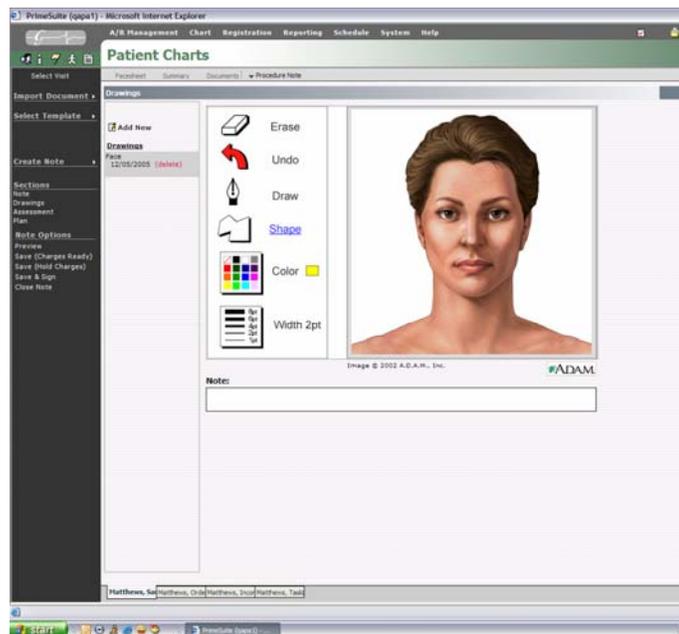
Building the Product

"The goal was to build a state-of-the-art application for practice management and clinical users"
Greg Shulenberg, EVP & Chief Operating Officer, Greenway Medical Technologies[26]

The development team followed two fundamental principles:

1. The software must be easy to use.

2. The encounter between doctor and patient should not be slowed down.

In an effort to create a product that met these criteria, Greenway retained four medical doctors, who serve as full-time consultants to the company, in addition to a chief medical officer to drive product development. This group provided subject matter expertise (SME) and designed the operational process to support the system. For example, they were involved in developing the range of possible diagnoses that will appear on screen after a doctor selects the patient's

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[26] www.greenwaymedical.com/company/bio_Management.cfm#gregschulenburg

symptoms by medical specialty. They were also involved in documenting and sequencing the questions required for patient interviews.

Greenway actively engaged 25 beta-test companies to provide input and help design and test the application software during the various phases of development and implementation. Based on these interactions, Greenway compiled best practices, templates, and a clinical vocabulary that is stored in a "Content Library" as a module within the Prime*Suite* system.

More than just building a database, Greenway is creating a structure to capture data, standardize processes, and distribute information, creating a knowledge-sharing system, a powerful tool for improving medical practice management.

The technical strategy focused on building a Web-based application, which was a courageous decision to make during the late 1990s when the majority of "dot-com" companies were going bankrupt with some regularity. However, Brad Tuggle, Greenway's CFO, claims that "the Web was the right choice and the smartest decision the firm made." Research indicated that the typical medical practice in Atlanta is 25 users, five physicians, and three locations; therefore a Web-based application could serve multiple sites with one central server location for data storage. Greenway chose Microsoft's .NET architecture[27] for the foundation of its Web-based products.

The challenge was acquiring resources to build the system. Frequently, you will hear the system developers quip, "Not your father's Web browser" to describe the paradigm shift from a static page with links to a complete application delivered through a Web interface. Greg Shulenberg, Chief Operating Officer, recruited developers without any Web experience. Instead, Greg focused on finding individuals who had an "application mindset." As a result, most of the developers had experience with client-server systems and were then trained in Web technologies. Roughly 90 percent of development was done in-house.

The second key element in the technical strategy was to develop a flexible, configurable software product. The software provides parameters that enable each medical practice to develop customizable menu options or "flow sheets" to collect patient information.

VI. GREENWAY'S STRATEGY

Greenway Medical Technologies' business strategy revolves around creating physician-centric software solutions that enable efficient work processes. The EMR industry is driven by medical specialties, and Greenway initially focused on developing a solution for Obstetrics & Gynecology (OB/GYN), which accounts for the greatest percentage of specialty practices and the highest average number of hours worked by a specialty [Barbieri 2005]. Thus, OB/GYN offers considerable opportunity for efficiency gains. Greenway decided on a phased approach to gradually develop and rollout its EMR product for nine additional primary specialties.

Greenway set out to differentiate itself by focusing on building a superior product. Tommy Green states, "We have built a very sophisticated product for an unsophisticated market." Given this dichotomy, it was imperative to increase the core competency beyond the product to gain market share in a fragmented market. As a result, Greenway's strategy also focuses on providing robust

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[27] www.microsoft.com/net/

and personalized customer support. The phrase, "What was your Greenway experience?" is a constant probe to ensure customer satisfaction.

Greenway offers employees an ownership stake in the joint venture, aligning individual goals with the overall goals of the organization. Located 50 miles from major metropolis Atlanta, Carrollton is a bedroom community, which is a draw for many professionals who want to escape the hustle and bustle of urban life. As a part of its strategy, Greenway wants to combine a start-up software company with a pleasant business environment, inclusive of benefits such as flexible work hours and a company-sponsored online gaming tournament. The company has a total of 170 employees structured in a traditional functional organization focused on sales and operations (See Figure 1).
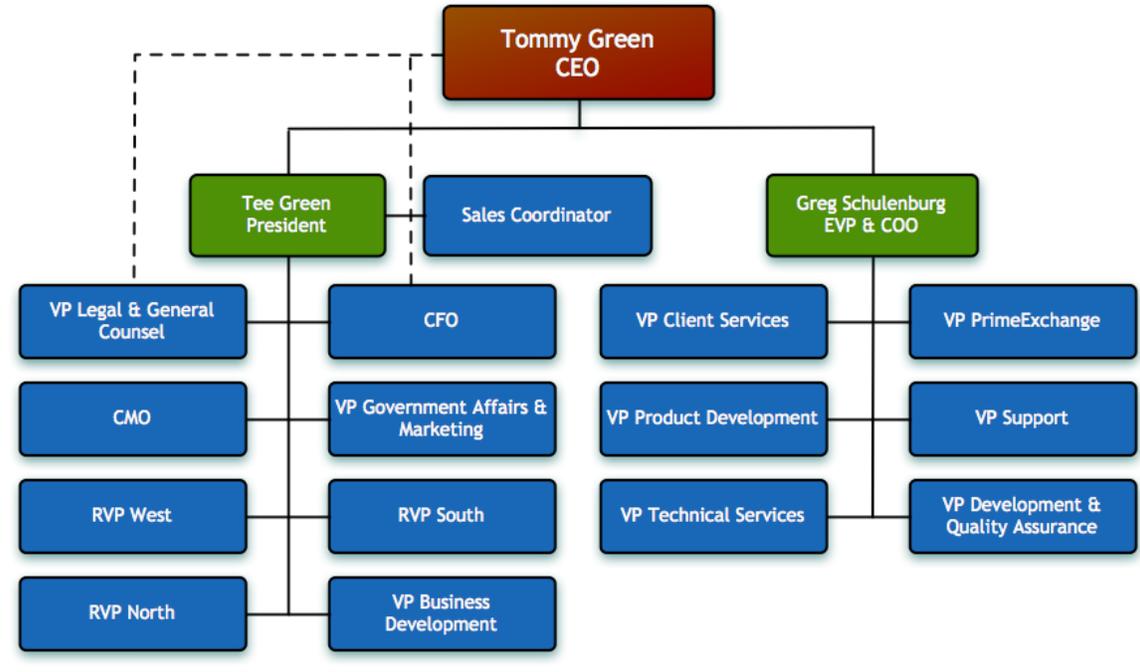
Figure 1. Organizational Chart

To finance the company, Tommy Green generated over $64 million in funding from 350 private investors over a four-year period, including approximately $15 million from personal assets and the sale of his previous company. In May 1999, the initial investment began with a private common stock placement of $4.5 million, comprised of 44 investors each required to invest a minimum of $50,000. These funds were used to build the initial prototype. In June 2000, the firm raised $18.5 million in the private equity market to further develop the application. Two years later, in June 2002, a third round of private financing was secured for $15 million dollars to support the market roll-out of Greenway's flagship software product, Prime*Suite*. In October 2006, Greenway closed on $22 million of Series B preferred financing. This round of financing was led by Wachovia Capital Partners,[28] which has a long history of successful healthcare investments.

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[28] www.wachoviacapitalpartners.com/

SALES AND MARKETING STRATEGY

The target market for Greenway is practices with a range of one to five doctors across eight medical specialties, with a primary focus on obstetrics and gynecology practices (OB/GYN), representing 40 percent of the total client base. The remaining specialties served are General Surgery, ENT, Family Practice, Cardiology, and Orthopedics. American Medical Association data indicates that 70 percent of practices are 12 doctors or less. Additionally, it targets physicians' offices that currently do not have an EMR system. Greenway does not market to hospitals or clinics.

In 2003, after a five-year product development life cycle, Greenway hired eight salespersons to begin actively marketing Prime*Suite* to small practices in the Southeast. By the end of 2005, Greenway employed a national sales force of 22 full-time salespersons assigned to three geographic territories: South – Region 1, West – Region 2, and North – Region III (See Figure 2).

Figure 2. National Sales Territories

Salespersons are paid on both a salaried and commissioned basis and are required to meet annual quotas. Direct personal selling is the primary strategy for growing the customer base and increasing market share. The company plans to continue to ramp up the sales team and focuses on successful salespersons who can drive business results as opposed to defining geographic regions where the company would like to develop clients. In the words of Tee Green, "Pick a person, not a city."

Direct sales typically result in the sale of a perpetual license to the medical practice. The client pays an up-front lump sum for software, hardware, and installation and pays an annual fee for maintenance and support, including version upgrades. Of the total license fee, 30 percent is for the software, 20 percent is for deployment and training, and the remaining 50 percent is for hardware and maintenance. The ongoing maintenance fee supports system version releases and technical customer service.

Indirect Sales Strategy

During the period 2004-5, Greenway focused on developing an indirect sales strategy, which is driven through relationships with Value Added Resellers (VARs) of Business Alliance partners who typically have an account base of 100 practices. These practices have outsourced some portion of their medical practice, usually billing services, and have adopted the practice management section of Prime*Suite*. Greenway sells to these servicing companies at a discounted rate of 35 percent if the company will deploy Prime*Suite*, and Greenway provides 50 percent of the client support.

A second component of the indirect strategy is a sales partnership between Greenway and [Physician Sales & Service, Inc.](#) (PSSI).[29] PSSI is a 700-person sales organization that markets over 12,000 products to doctors, clinics, and hospitals, including medical supplies and equipment, x-ray machines, heart monitors, cotton balls, file cabinets, and office equipment. As a regular supplier to the target market and with multiple daily and weekly interactions with physicians and health practices, PSSI is a conduit of information for Greenway to educate doctors about EMR systems overall and Prime*Suite* in particular.

By the beginning of 2006, the company had an installation base of 317 practices, 1,300 doctors, and 7,000 users across the continental United States.

CHANGE MANAGEMENT

Greenway's product development and marketing strategies are very effective. There are other challenges, however, that the firm must address, namely change management and software distribution/implementation.

Greenway is not just selling software; it is literally convincing medical professionals to change the way a medical practice operates and the critical interaction between patients and caregivers. Switching from a paper-based system to an entirely electronic system is a tough sell, especially for those practices established prior to the "dot-com" age. Many doctors prefer to maintain the status quo, keeping paper charts and handwriting prescriptions. In addition, some practices are concerned about the reliability of technology. If the technology infrastructure for an Internet connection is not available or the system crashes, the entire operation will shut down. Tee Green acknowledges that "If the system is down, every patient is a new patient." As a result of this resistance to change, lead times for sales are extremely long, anywhere from one to two years on average from the initial client contact.

While pre-sales offers some challenges, after the sale is completed, a new set of challenges arise. On average, post-sale, it takes six months for the entire system to become fully operational. From the time the system is purchased, it will take six weeks to procure and install the hardware

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[29] www.pssd.com

and build the database. It takes about 90 days to go live from the purchase date and 90 days before the office becomes proficient in the use of the software. This six-month timeframe limits the capacity to distribute the product and is a major constraint for Greenway and the industry overall. In fact, the approximate installation capacity industry-wide is 215 systems per month, for a maximum capacity of 2,580 per year. From an operations perspective, there is a see-saw battle between distribution and implementation.

CLIENT SERVICES

Client support is an important component of Greenway's strategy. The company strives to be a customer-focused organization offering personalized attention.

During the implementation phase, post-sale, typically the billing, nursing, scheduling, and practice administration staff will attend a week-long training program at Greenway headquarters. These employees are responsible for returning to their offices and training the remainder of the staff, a train-the-trainer approach. When the system actually "goes live," Greenway provides on-site representatives to work individually with employees and support the office transition.

Post-implementation, clients have access to Greenway's technical support, which offers three support levels: Tier 1 responds to basic user questions and general functionality inquiries; Tier 2 offers more expertise around building customized drop-down menus or hardware issues; Tier 3, the highest level, typically responds to infrastructure system issues or "bugs" in the software code. Tier 3 personnel are staff engineers, many of whom wrote the initial code for Prime*Suite*. These support services are available for the duration of the license agreement between client and Greenway.

At the six-month milestone, when the physician's office is deemed proficient, the senior leadership of Greenway visits the office and asks, "What was your Greenway experience?" Through these visits, Greenway receives intimate client knowledge and critical feedback on its change management process.

A major challenge facing client services is the ability of physicians' offices to make changes to their business process and daily office procedures. Some clients tend to over-rely on the Greenway support staff for assistance in cases where the office turnover is high or new employees are not effectively trained. Greenway is looking for opportunities to hold medical practices accountable for behavioral changes while still providing exceptional customer service.

FINANCING GROWTH

"Our financial picture is low debt, no intangible assets, and high invested capital. There is a waiting list of physicians who want to buy stock to avoid dilution." Brad Tuggle, CFO, Greenway Medical Technologies[30]

By June 2003, Greenway had entered the market with Prime*Suite* and wanted to increase its visibility in the marketplace through a focused marketing campaign; accelerate the development of specific system functionality; expand its customer support center; and increase its sales and professional services staff. To turn the corner from a small start-up to a major player, Greenway turned to the Sweden-based Investor AB,[31] a private equity advisory firm.

In May 2004, Investor AB and its subsidiary Investor Growth Capital (IGC)[32] invested $15 million in a $20 million round of funding to become the second largest shareholder in the Greenway joint venture. The remaining $5 million was funded by individual investors. Investor AB appointed two

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[30] www.greenwaymedical.com/company/bio_Management.cfm#bradtuggle
[31] www.investorab.com
[32] www.investorab.com/en/InvestorGrowthCapital/Default.htm

members from the [Wallenberg family](33) to serve on the board of directors and help to determine the strategic direction of the firm.

Greenway benefits from this partnership in two ways. First, Investor AB does not raise funds for private equity ventures; instead it directly invests and therefore has a personal ownership stake and a long-term horizon for seeking a return on its investment. This enables Greenway to focus on developing sound strategies for growing the firm over the long-term as opposed to focusing on short-term profits and liquidity to pacify investors with shorter time horizons.

Secondly, Greenway benefits from increased credibility with future potential investors, suppliers, and customers. Investor AB is a shareholder in a number of global public companies such as Astra Zeneca, Ericsson, Saab AB, and Electrolux. The company has a diversified portfolio of holdings in Healthcare, Technology, Engineering, and Financial Services. The subsidiary, Investor Growth Capital (IGC), actively invests in technology and healthcare companies. IGC accesses Investor AB's extensive global network of companies and senior managers to assist in the growth and development of its portfolio companies.

Greenway currently has a high amount of equity or invested capital in the company with low-debt levels (currently $7 million). With strong access to capital via its relationship with Investor AB and increasing sales levels, Greenway is focused on becoming cash flow positive and ramping up growth using sales revenue to fund future business opportunities.

Table 3. Emerging Greenway Products

Product Name	Product Description	Strategy
Prime**Arm*** **(released in November 2005)**	Accounts Receivable Management Service that provides the personnel and technology to handle all aspects of the billing cycle.	• Creates a market for commonly outsourced functions for medical practices • Create a value-added service model to support existing clients
Prime**Patient**	Provides secured and structured two-way communication between the patient and the physician, via a web portal called MyMedicalWeb.com.	• Increase the use of personalized health records • Enhance informed consumer choice
Prime**Research**	Provides physicians with access to a vast network of clinical trials, medical research, and alerts from the Center for Disease Control.	• Improve population health • Accelerate research and dissemination of evidence
Prime**Mobile**	Creates an infrastructure to allow access to Prime**Suite** via PDAs and other mobile devices.	• Improve efficiency of medical practice beyond office hours • Provides 24-hour access to information

[2] Greenway Medical Technologies' fiscal year is from May 1st – June 30th.

As of the writing of this case, sales levels were ahead of plan by $1 million, and the firm expected to be in the black by the end of fiscal 2005, after seven years of developing the business.[2]

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[33] en.wikipedia.org/wiki/Wallenberg

VII. COMPETITIVE LANDSCAPE

In the United States, there are more than 500 vendors marketing application software for physicians' offices [Kelly 2005]. Greenway identifies the following companies as its top competitors: A4/Allscripts,[34] Emdeon[35] (formerly Web MD), GE Healthcare,[36] Misys,[37] and NextGen.[38] The competition is formidable as these firms are large, publicly traded, multi-billion dollar firms or subsidiaries of public companies with diversified holdings (See Table 4).

Table 4. Selected Competitor Data (Source: Hoovers Online[39])

Competitors	Focus	Type	Revenue (Millions)	Number of Employees	Headquarters
A4/Allscripts (a branch of the public held Allscripts) [1]	Clinical software and information systems for doctors.	Public	$120.6	386	Chicago, IL
Emdeon[2] (Formerly WebMD)	Variety of services to connect physicians, hospitals, pharmacies, insurance providers, and consumers with health care transactions and information retrieval	Public	$1,276.9	5,940	Elmwood Park, NJ
GE Healthcare[3]	Medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, and biopharmaceutical manufacturing technologies	Public Branch	$10,200	43,000	United Kingdom
Misys Healthcare[4]	Physician practices, hospitals, and home health care organizations	Private	$507	2,600	Raleigh, NC
NextGen[5]	Medical and dental practices, ambulatory care centers, community health centers, and medical and dental schools	Public	$89.0	400	Horsham, PA
Greenway Medical Technologies[6]	Practice management, electronic medical records, and managed care functions	Private	$8.9	170	Carrollton, GA

[1] Data as of 2005. Allscripts acquired A4 Health Services on March 2, 2006. Allscripts is traded on NASDAQ.
[2] WebMD Corporation bought Medical Manager in September 2000. This record provides a historical snapshot of the company as it appeared before Hoover's discontinued active coverage. The data for Medical Manager as of 1999 are sales (mil.) $258.0; employees 2,478
[5] Data as of 2003.
[4] Data as of 2004. Misys Healthcare is a branch of the public held Misys. It is traded on LSE.
[5] Data as of 2005. NextGen is a subsidiary of Quality Systems.
[6] Revenue data as of 2003. Employee data as of 2005.

[34] www.allscripts.com
[35] www.emdeon.com
[36] www.gehealthcare.com
[37] www.misys.com
[38] www.nextgen.com
[39] www.hoovers.com/free/

The larger companies view their size and large installation base as a competitive advantage and can contrast themselves to the "little company" in Carrollton, Georgia. While the size of Greenway does not compare with its peers—the smallest competitor earns double the revenue—Greenway focuses on core strengths such as domain knowledge, product integration, and human resources.

Most EMR software firms typically have only one medical doctor on staff compared to the five doctors at Greenway, who are also company shareholders. In-house expertise in the form of full-time staff members and investors increases the domain knowledge for the firm and results in effective product research and development. Greenway's domain knowledge also benefits from a core focus on strategic medical specialties in the small physician's office market compared to competitors who serve multiple target markets, specialty groups, and industries.

Greenway's unique approach to developing an "integrated package" surpasses competitors who typically build an interface to enable the sharing of information between the administrative and the clinical functions. Product integration or the "glove and hand" strategy leads to a better user experience.

As a small player, Greenway exhibits continuity in creating and delivering products and services. Enjoying extremely low turnover, over a period of eight years, the firm has lost only seven software developers and the original developer of the Prime*Suite* application remains on staff.

VIII. SUMMARY

Over a seven-year period (See Figure 3), Greenway Medical Technologies has become a multi-million dollar, niche software and services provider for the physician's office market.

There are many key issues to consider as Tommy and Tee Green contemplate life beyond Saturday's football game. Can the existing business model increase capacity and achieve economies of scale? How can Greenway increase its service offerings to deepen existing client relationships and increase market share? Should Greenway allocate resources toward increasing sales if its operations cannot support the distribution and implementation? Where should it allocate resources to develop emerging products and enter new markets? What is the optimal approach for financing growth, an initial public offering or retain private ownership and growing organically? What should they do if a competitor makes a very attractive offer to acquire the firm?

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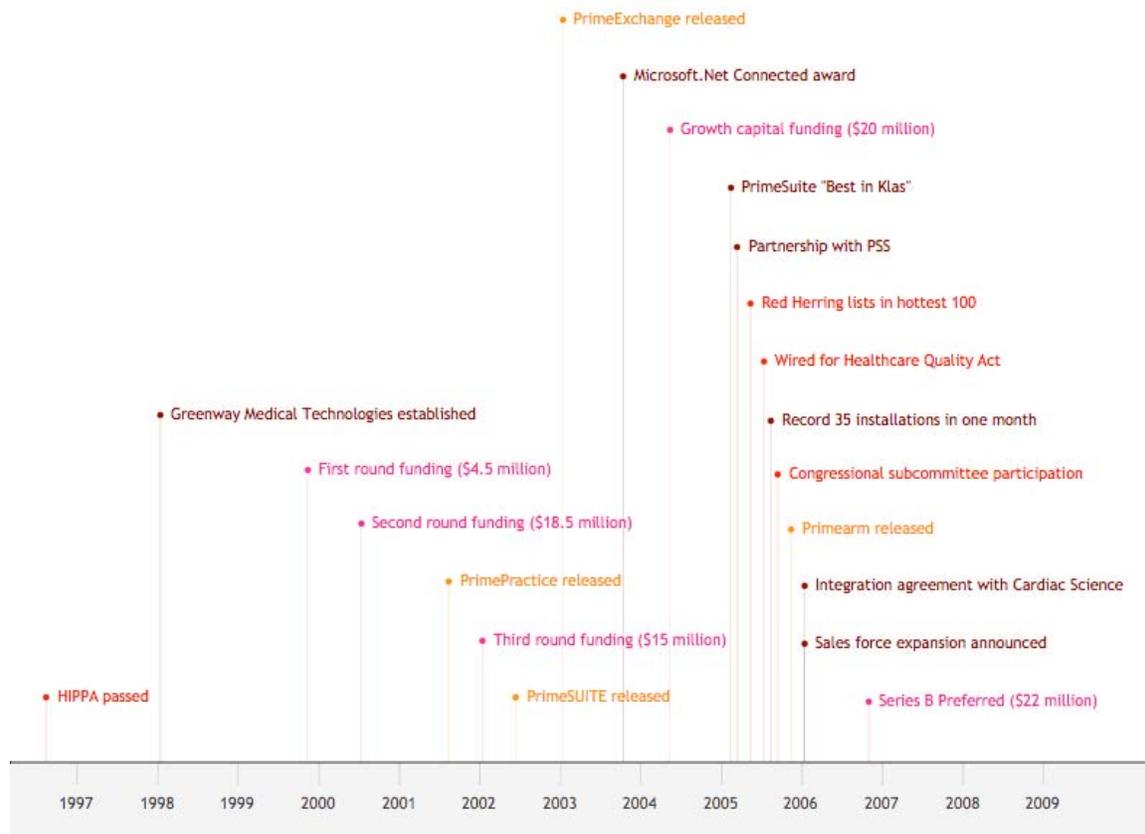Lamont, Judith. (2005). "Electronic Medical Records: A Promising Prognosis." *KM World.* 14 (8):12-15.

• PrimeExchange released

• Microsoft.Net Connected award

• Growth capital funding ($20 million)

• PrimeSuite "Best in Klas"

• Partnership with PSS

• Red Herring lists in hottest 100

• Wired for Healthcare Quality Act

• Greenway Medical Technologies established

• Record 35 installations in one month

• First round funding ($4.5 million)

• Congressional subcommittee participation

• Second round funding ($18.5 million)

• Primearm released

• PrimePractice released

• Integration agreement with Cardiac Science

• Third round funding ($15 million)

• Sales force expansion announced

• HIPPA passed

• PrimeSUITE released

• Series B Preferred ($22 million)

1997   1998   1999   2000   2001   2002   2003   2004   2005   2006   2007   2008   2009

Figure 3. Greenway Timeline

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